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INSTITUTIONAL DETERMINANTS OF NECESSITY-DRIVEN ENTREPRENEURSHIP

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Abstract: Abstract: This preprint is the first part of the Necessity-driven Entrepreneurship: a cross-country Analysis project. In this paper we identify determinants of necessity-driven entrepreneurship in developed and developing countries. We describe the differences in the socio-demographic characteristics of necessity- and opportunity-driven entrepreneurs, as well as their perceptions and aspirations. The main content of this research determines the significant factors in the regulatory, normative, and cognitive pillars of the institutional environment. Using the databases of World Bank, the International Labour Organization, the Global Entrepreneurship Monitor survey, the Doing Business, and the World Economic Forum, the set of the variables of the institutional environment was defined. These data are from 2009 to 2014, and range across 70 countries.

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Introduction

Determining the way that entrepreneurial activity influences on economic growth is one of the more popular research topics. A considerable part of them is dedicated to the study of the relation between country specifics and different aspects of entrepreneurial activity, which include both the parameters that characterise the number of those involved in entrepreneurship process and the qualitative features of entrepreneurship (Levie et al., 2013; Acs et al., 2014, Bowen and De Clercq, 2008; Van Stel et al., 2007).

Researchers believe that entrepreneurship is influenced by regional and countries characteristics, such as the level of economic development, the demographic situation and the development of institutes. In turn, entrepreneurship can influence the development of the economic and institutional environment. Most researchers speak about a positive influence of the entrepreneurial sector on economic development. (Acs and Audretsch, 2003; Carree and Thurik, 2010; Wennekers and Thurik, 1999; Audretsch and Keilbach, 2004; Acs, 2006; Van Praag and Versloot, 2007; Van Stel et al., 2005; Baumol and Strom, 2007).

A number of researchers indicate that countries are different not only in the level of entrepreneurial activity, but also in the structure of entrepreneurship. There exist different approaches to classifying entrepreneurship. General rates of entrepreneurship can be separated into two distinct types: replicative entrepreneurship and high-impact entrepreneurship (Acs, 2010; Shane, 2008; Stenholm et al., 2013). These two types of entrepreneurship have different roles in economic development. The former guarantees that the population is employed, but, at the same time, is not connected with offering innovative products or searching for new ways of conducting business. Therefore, this type of entrepreneurship does not contribute to economic growth. The latter type of entrepreneurship is one of the foundations of growth.

We can suppose that the institutional environment will have a different influence on different types of entrepreneurship.

The decision about starting a business is an individual decision, influenced by economic and institutional factors. For part of individuals, the decision about choosing the entrepreneurial career is a forced decision — they start their business because no other opportunities of having an income exist. For others, the creation of their own enterprise is a voluntary choice; they connect the advantages of a greater income or realising their own ideas and initiatives with having a private business.

Entrepreneurs from countries with a low level of economic development most commonly start a new business as a result of absence of alternative possibilities of employment, and motivate their decision by having potentially profitable business ideas less often. Nevertheless, the level of entrepreneurial activity, including necessity-driven entrepreneurial activity, is very high in these countries. With economic growth, the number of alternatives to entrepreneurship increases. It leads both to a decline in the total number of entrepreneurs and to a decrease in the share of necessity-driven entrepreneurs. In economically developed countries, the number of those who start their own business for the sake of a greater income as opposed to the income they could get from being paid employees increases. It becomes possible through filling product niches with new products or through combining the resources of the organisation in an effective way.

The reasons for the start of a business will define the entrepreneur's behaviour, as well as which type of business he will create. The prevalence of necessity-driven or voluntary motivation will have its impact on whether replicative entrepreneurship or high-impact entrepreneurship will be in effect. Studying the structure of motivation helps one understand the characteristics of

aspirations. Those who are forced to involved in entrepreneurship, or do so because they need to maintain the level of their income will, most likely choose to become a hired employee should an opportunity of employment with a comparable income appear, which may lead to a lower level of survivability of companies. The short-term horizon of activity may as well lead to a smaller desire to invest in the development of the business and in the growth of the firm. Such features of the behaviour of entrepreneurs impact the fact that opportunity-driven entrepreneurship has a beneficial effect on economic growth while necessity-driven entrepreneurship may lack a beneficial effect (Autio, 2007; Shane, 2009; Acs and Varga, 2005).

Indeed, the data of the Global Entrepreneurship Monitor (GEM) project indicate differences in the innovativeness of businesses and the drive to increase the size of the companies of necessity- and opportunity-driven entrepreneurs (Table 1).

Although there are no statistically significant differences in the average age, there can be observed a variation among the countries. In general, necessity-driven entrepreneurs are older than opportunity-driven ones, which is reflected in the distribution differences. Mainly, it is characteristic of countries with a low level of economic development. For example, the share of necessity-driven entrepreneurs in the over 45 age group is 14.3%, and for opportunity-driven entrepreneurs this share is 9.3%. At the same time, in economically developed countries, there is a tendency to the "aging" of opportunity-driven entrepreneurs. In the USA, the share of necessity-driven entrepreneurs in the over 45 age group is 45.7%, and the share of opportunity-driven entrepreneurs is 57.7%.

Necessity-driven entrepreneurs and opportunity-driven entrepreneurs are also different in terms the level of income. Among necessity-driven entrepreneurs, people with a low level of income are prevalent (46.7%) while among necessity-driven entrepreneurs, the total annual income is considerably higher. Such differences become particularly evident when we compare different countries.

The differences in distribution by the level of education of necessity-driven entrepreneurs and opportunity-driven entrepreneurs signify that necessity-driven entrepreneurs have a higher level of education. Among necessity-driven entrepreneurs, the majority are individuals with primary and secondary education — 73.4%, and the percentage of those with post-secondary and higher education is 26.6% (3:1). Among opportunity-driven entrepreneurs the majority are individuals with primary and secondary education — 57.0%, and with post-secondary and higher — 43.0% (4:3).

In terms of employment status, we should mention that among necessity-driven entrepreneurs the share of the unemployed is higher than among opportunity-driven entrepreneurs. On the other hand, those who are employed full-time are most commonly opportunity-driven entrepreneurs, which means a more conscious decision about starting a business. In spite of having a job, an opportunity-driven entrepreneur decides to start his own business.

Apart from the differences in sociodemographic characteristics, there can also be noted differences in perceptions. Necessity-driven entrepreneurs more often have the fear of failure (on average 31.7% against 25.4%), are less involved in the entrepreneurial community (58.3% against 67.1% — know an entrepreneur who has started a business in the last 2 years), see fewer opportunities for starting a business (56.8% against 66.7%), and evaluate their skills in starting a new business slightly lower (80.4% against 85.5%).

Necessity- and opportunity-driven entrepreneurs differ in terms of aspirations. Necessity-driven entrepreneurs expect to work on new markets less often (38.9 against 46.8%), expect to create a new product less often (41.9 against 47.6%), and have lower expectations of growth (7.3% against 12.3% are planning to create 19 or more new workplaces).

The results of the studies indicate that the share of necessity-driven and opportunity-driven entrepreneurs varies in the countries with a different level of economic growth. In general, we can see that the share of necessity-driven entrepreneurs declines as GDP grows (Figure 1).

Table 1. Necessity-driven vs. Opportunity-driven entrepreneurship, % of TEA, 2013

	Necessity-driven entrepreneurship	Opportunity-driven entrepreneurship
Number of observation	7802	20505
Gender:		
Male	53.9	60.4
Female	46.1	39.6
Average age	37.5	36.6
Age group:		
under 25	14.4	16.2
25 to 34	30.8	32.3
35 to 44	26.2	26.0
45 to 54	18.8	17.1
over 54	10.0	8.5
Average family size	4.2	4.0
Average total annual income of household (GEM income recorded into thirds):		
lowest 33% tile	40.8	26.4
middle 33% tile	29.6	29.4
upper 33% tile	29.5	44.2
Highest level of education:		
pre-primary education	6.0	3.2
primary education	14.7	8.0
lower secondary education	17.5	12.9
upper secondary education	35.2	32.9
post-secondary non-tertiary education	10.6	13.6
first stage of tertiary education	15.4	28.1
second stage of tertiary education	0.6	1.3
Employment status:		

employed by others in full-time work	15.0	26.9
employed by others in part-time work	8.3	10.8
self-employed	70.9	66.0
Unemployed	16.0	9.6
Fear of failure	31.7	25.4
Personal acquaintanceship with an entrepreneur	58.3	67.1
Expectations of good opportunities of starting a business within 6 months	56.8	66.7
Having the required knowledge, skill and experience to start a new business	80.4	85.5
New market (few/no businesses offer the same product)	38.9	46.8
Product is new to all or some customers	41.9	47.6
Expects more than 5 employees in next 5 years	18.9	29.6
Expects more than 19 jobs in 5 years	7.3	12.3
Technology level of the sector	3.0	4.4

Note. We used the complete GEM database using personal data (144,464 observations) across 70 countries in 2013.

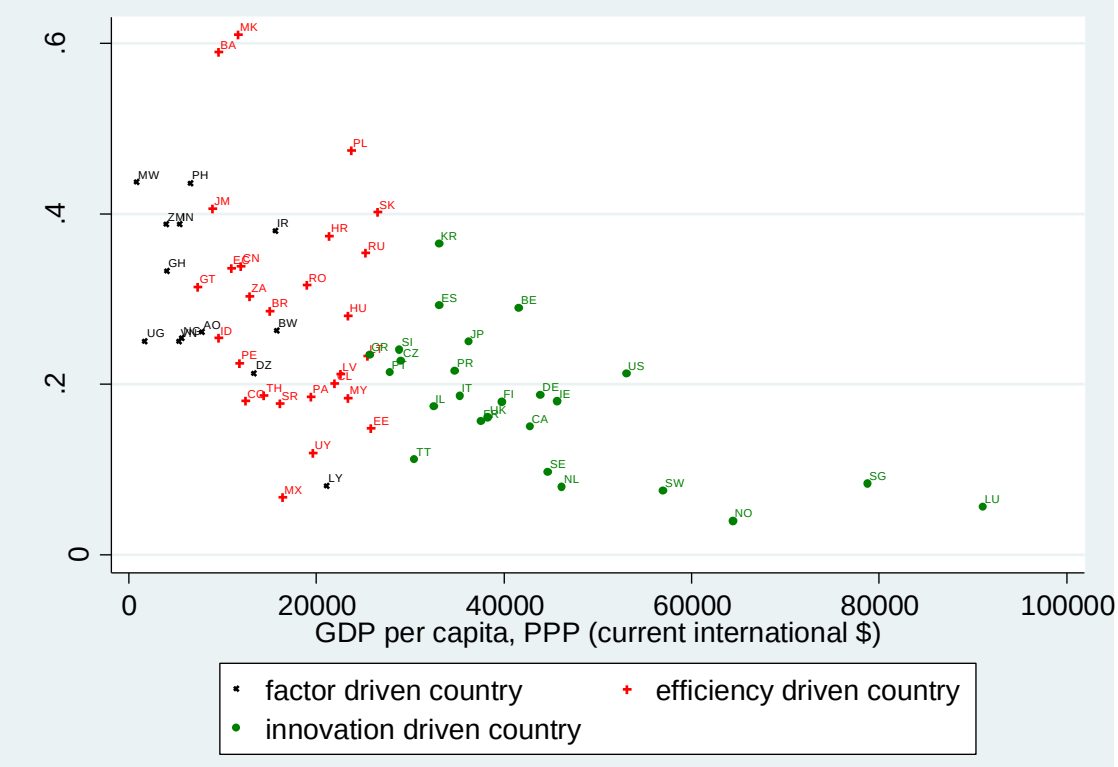

Figure 1. Share of necessity-driven entrepreneurs, divided by the country group and the level of GDP per capita in 2013*

Note. * The acronym's description is presented in Appendix 4.

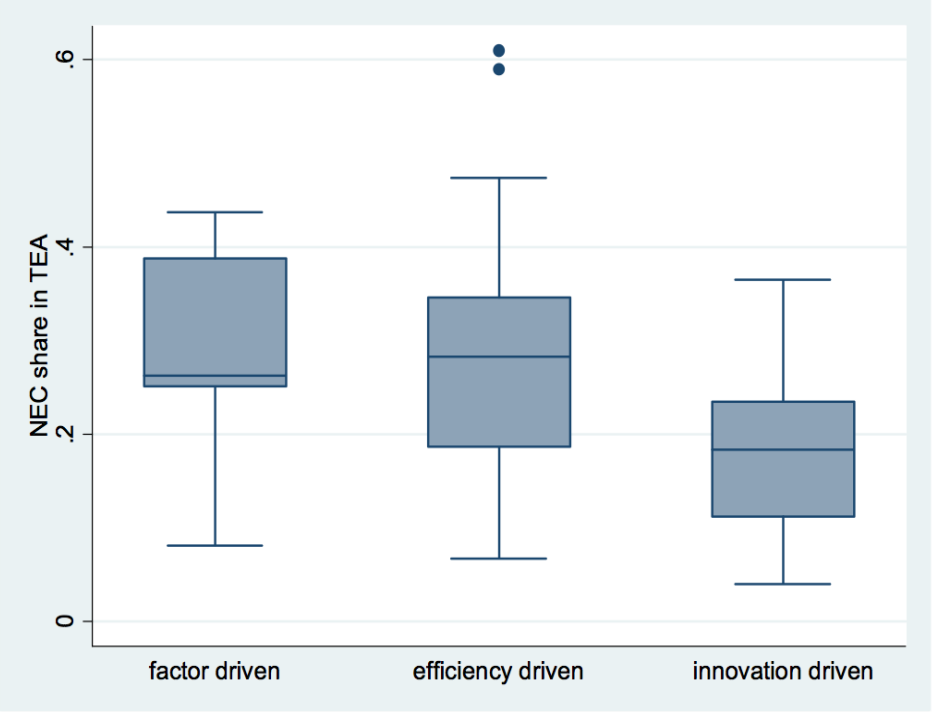

Figure 2. Box-plot of the level of necessity-driven entrepreneurship, divided by the country group, 2013

Not all high-income countries have the same level of opportunity-driven entrepreneurial activity; likewise, not in all low- and middle-income countries are entrepreneurs forced to start their business as a result of external circumstances. In spite of the existence of the connection between the level of GDP and the share of necessity-driven entrepreneurs, there is a rather considerable spread of the value of the indicator characterising the share of necessity-driven entrepreneurhsip, in the countries with a similar level of economic development (Figure 2). As we can see from the block diagrams, distribution and variation of opportunity-driven entrepreneurship within a country's group vary considerably. These differences can be explained by the influence of institutes.

The purpose of the work is to determine the factors of institutional environment influencing the structure of motivation of entrepreneurs and to determine the set of variables leading to an increase in the level of activity of necessity-driven entrepreneurs and the growth of the share of necessity-driven entrepreneurs among entrepreneurs.

Theory and Hypotheses

Institutional approach to entrepreneurial research

Institutions are attributed to such aspect of social structure that implies existence if authoritative guidelines and restraints for human behavior (North, 1990) According to definition of Powell W.W. and DiMaggio P.J. (1983) institutions are taken-for-granted rules, which can either be consciously perceived by people, or act as embedded guideline for people's actions.

Institutional environment in which entrepreneurs are embedded significantly influence development of a business (Ahlstrom and Bruton, 2010). Application of institutional theory has the potential to provide great insights for entrepreneurship. Institutional environment can shape entrepreneurial behavior and explain antecedents of entrepreneurship as well as determinants of its characteristics. Entrepreneurial activities cannot be analyzed without consideration of the

institutional context, in which they occur (North, 1990; Baumol, 1996). Institutional theory has proven to be a useful theoretical foundation for exploring a wide variety of topics of interest to entrepreneurship studies (Stenholm et al., 2013). Some examples of papers based on application of institutional approach to entrepreneurial research on country level are shown in Table 2.

Table 2. Application of institutional theory to entrepreneurial research on country level

Subject	Author/date
Entrepreneurial entry	Van Stel et al., 2007; Djankov et al., 2001; McMullen et al.,2008
Individual entrepreneurial efforts	De Clercq et al.,2013; Mitchell et al., 2002, Estrin and Mickiewicz ,2011
Rate of economic growth	Carree et al., 2002; Wong et al., 2005
Entrepreneurial framework conditions	Valliere, 2010
Country-level differences in the structuring of entrepreneurial activity	Sobel, 2008; Busenitz et al.,2000; Reynolds et al., 1994; Sternberg and Wennekers, 2005; Stenholm et al., 2013; Wennekers, 2006
Public Policies	Verheul et al., 2002; Acs et al., 2014; Bruton et al., 2010
Growth aspirations	Estrin et al., 2013; Autio and Acs, 2010; Levie and Autio, 2011; Hessels et al., 2008
Entrepreneurship in emerging economies	Peng and Zhou, 2005; Manolova et al., 2008; Smallbone and Welter, 2006; Aidis et al., 2008; Puffer et al., 2010
Formal and informal entrepreneurship	Autio and Fu, 2013; Webb et al.,2014; Webb et al., 2009.

The majority of the research concentrates on the effects of the institutional environment on general rate of entrepreneurial activities and country-level differences in the structuring of entrepreneurial activity. Some studies have explored the effect of institutions on different types of entrepreneurial action, such as high growth expectations vs. low growth expectations (e.g., Stenholm et al., 2013; Levie and Autio, 2011), productive vs nonproductive (Baumol, 1996; Sobel, 2008). There are few studies on opportunity vs. necessity entrepreneurial entries (Sambharya and Musteen, 2014; Thurik and Dejardin, 2011; Valdez and Richarson, 2013). Understanding of the structure of motivation may be useful for stimulating the creation of growthoriented entrepreneurial firms. Most research acknowledge that institutes can have a different influence on opportunity- and necessity-driven entrepreneurship.

The factors of institutional environment influencing the motivation of entrepreneurs

The theoretical base for a lot of research is provided by three institutional pillars introduced by Scott (1995), and adapted by Kostova (1997) and Busenitz et al. (2000). Scott (1995), using a vast literature review, highlighted three main sources of institutes — regulatory, normative and cognitive, and indicated that there can be different bases for their existence, as well as enforcement mechanisms and expected effects.

Regulatory institutions refer to the formally codified, and enforced structure of laws in a country. The normative institutions manifest in standards which are established by different groups and associations. Cognitive institutions are the beliefs about the expected standards of behavior that are specific to a culture, which are typically learned through social interactions by living in a society.

Scott's three pillars provide incentives that promote or inhibit entrepreneurial behavior in an economy (Stenholm et al., 2013) and can be used for suggestion about institutional

arrangements which determine entrepreneurial activity in an economy. We use three pillars theory for identification variables of necessity- driven entrepreneurship.

As it was said, regulatory institutes restrict and order behaviour. The fewer barriers there are on the way to starting a business, the higher the level of entrepreneurial activity (Veciana and Urbano, 2008); besides, difficulties on the way to creating a business will have a stronger influence on necessity-driven entrepreneurs.

Start-up costs can also have a negative effect on the level of entrepreneurial activity. It should be considered that start up costs are connected with its complexity. As necessity-driven entrepreneurs are mostly not ready to considerable investments, an increase in the start-up costs will have a negative effect on the level of entrepreneurial activity.

In the absence of a sufficient level of demand on the labour market, an individual has a choice — to start his own business or to remain unemployed. If the country has social security programs and high unemployment benefits, the number of those starting a business will be smaller than in the situation where there are none; this way, the existence of social security programs and coverage of unemployment benefits will have a negative effect on the level of activity of necessity-driven entrepreneurs.

An important issue that impacts entrepreneurship in general is taxation. Under a high tax burden, an individual may consider starting a business not viable. A necessity-driven entrepreneur will compare the possible net income not only with possible alternative incomes, but also with the amount of money he can receive if he remains unemployed. Reducing tax rate may stimulate entrepreneurial activity (Acs and Szerb, 2007), including the activity of necessity-driven entrepreneurs. Moreover, a notion exists that in countries with a high level tax burden often characterize high level of social guarantees (Bjornskov and Foss, 2008), so we can suppose that in countries with a higher tax burden, the level of activity of necessity-driven entrepreneurs will be lower.

Lack of property rights protection may discourage entrepreneurs to develop their business (Stenholm et al., 2013; Diaz-Casero et al., 2012; Tonoyan et al., 2010). Uncertainty about receiving income from the capital invested has a negative influence on entrepreneurial activity in general, and on the activity on necessity-driven entrepreneurs in particular.

The normative measurement of the institutional environment is connected with social values which are perceived by individuals as preferable and social norms defining the patterns of behaviour and the perception of this or that kind of behaviour. Among the normative factors influencing the level of entrepreneurial activity in general and the level of activity of necessity-driven entrepreneurs, there are two traditionally mentioned factors: perceiving entrepreneurship as a successful career choice and the perception of an entrepreneur as a person respected in the society (Busenitz et al., 2000). To make a decision about starting a business, an individual has to perceive that his actions are supported. The results of previous research indicate that there is a positive connection between the normative pillar and the level of entrepreneurial activity (Valdez and Richardson, 2013). Interestingly, in case of necessity-driven entrepreneurs, the need for support can turn out to be more important than in the situation with those who purports to exploit opportunities. It should be considered that in the group of countries with a lower level of economic development the perception of an entrepreneurial career is higher than in the countries with a high level of economic development. It is explained by a smaller choice of employed alternatives (Singer et al., 2015). This is why in the countries characterised by a high status of an entrepreneur and of the choice of entrepreneurial career, there will be noted a higher share of necessity-driven entrepreneurs, as well.

Another aspect of normative pillar concerns corruption perception in the society. Actually trust-worthiness of country's economic actors is considered to be one of the most important factors since corruption may hamper entrepreneurial behavior (Bowen and de Clecrq, 2008).

Entrepreneurs usually act as givers of bribes — that is, for them, the commonplaceness of bribery means increased expenses for the creation and the management of their business. When evaluating the corruption in a country, one must consider not just the formal institutes, but also the attitude to corruption in the society (Tonoyan et al., 2010). Therefore, we can suggest that if a society perceives corruption as the behavioral norm, the level of entrepreneurial activity of necessity-driven entrepreneurs will be lower as they are more susceptible to costs increases.

As opposed to the normative pillar, which explains what individuals undertake for gaining approval and reflect(s) the collective principles of decision-making, cognitive factors are oriented for individual experience and specific people's convictions. On the other hand, the cultural context influences individual perception.

Fear of failure is one of cognitive factors. An entrepreneur differs from a hired employee by his readiness to take upon himself risks connected with running a business individually. Starting one's own business is, in most cases, connected with uncertainty in terms of future and the of possibility of making a profit. Attitude to risk is one of personal characteristics, but may be influenced by institutional factors and the transparency of the rules of operating a business. The perception of risk affects the level of entrepreneurial activity (Stenholmet al. 2013). The higher, in a society, the number of those who are afraid of failure is the lower the activity of necessity-driven entrepreneurs.

Entrepreneur’s beliefs about relevance of skills that he has are likely to enhance entrepreneurial activity in a country (Shane, 2000; Bowen and de Clecrq, 2008). Still, what is important is not a formal education but the perception of one's knowledge. It should be noted that the necessary knowledge is defined by the complexity of the business; therefore, in the countries where the majority of the businesses is not connected with complex productions and technologies, the share of necessity-driven entrepreneurship can be characterized by a higher level of individual certainty, even at a lower level of education. Uncertainty of having the necessary knowledge to start one's own business can lead to the decision to abstain from starting a business. The more people in the country think that they do not have the necessary knowledge, the lower the level of necessity-driven entrepreneurial activity.

As it was mentioned earlier, cognitive factors are influenced by the culture. Cross-cultural researches let us speak of differences of the value of entrepreneurship in different countries. Nevertheless, the connection between the attributes of culture offered by Hofstede and entrepreneurial activity is controversial. For example, some researchers indicate a positive connection between Uncertainty Avoidance and the number of individuals who have started a business while other come to the opposite conclusions (Valdez and Richardson, 2013). This may be explained by the imperfection of attributes used for describing a culture, as well as by the fact that there exist different types of entrepreneurship. Those entrepreneurs who are opportunity-driven will fill more comfortable in the countries whose culture is characterised by innovativeness and long-term orientation. For necessity-driven these parameters will have a smaller significance. In general, different parameters of a culture can have a different influence on necessity-driven and opportunity-driven entrepreneurs, i.e. different parameters will influence the ratio of entrepreneurs with different motivations rather than the level of activity (Sambharya and Musteen, 2014). The countries in whose culture avoiding uncertainty prevails are characterised by the prevalence of individuals aspiring to the prevalence of clear rules of behaviour and not tending to show personal initiative. In these conditions, the share of necessity-driven entrepreneurs will be higher than in the countries with a low level of avoiding uncertainty. Lack of perseverance will have a similar influence. In the countries where the value of this parameter is low, the share of necessity-driven entrepreneurs will be higher.

Data

Cross-country analyses of entrepreneurial activity remain difficult due to the necessity of collecting information from different sources and databases. The limitations of different databases lead to missing data in time and across countries.

The most comprehensive source providing entrepreneurial activity measures is the Global Entrepreneurship Monitor (GEM) (Autio E. et al, 2005). However, GEM does not provide all required data for our research. Therefore, we collected information from five data sources to obtain the best available coverage. The description for the data sources used is presented in Appendix 1.

We constructed a database with 24 variables for each year for the period from 2009 to 2013. The number of countries ranges from 43 to 66 across time due to the changes in the number of the countries which participated in GEM. If GEM data is available for a particular country in a particular year, we merged data from the other databases. The variable definitions are detailed in Appendix 2. Summary statistics for the variables employed in our analysis are presented in Appendix 3.

As a dependent variable, we use the GEM country aggregated index — Necessity-based early-stage entrepreneurial activity, which is a percentage of individuals involved in early-stage entrepreneurial activity (as defined above) who claim to be driven by necessity (having no better choice for work) as opposed to opportunity (Singer, 2015).

For each economy the control variables indicate the peculiarities of the labour market, the financial system, and the stage of the economic development. As presented in Table 3, the share of necessity-driven entrepreneurship positively correlates with unemployment rate and negatively correlates with the level of economic development, as well as with the development of financial institutes. It should be noted that there is no significant difference between using ILO unemployment estimates and national unemployment estimates. Moreover, in the countries where unemployment is high, long-term unemployment is also high. For another thing, the development of financial institutes measured as percentage of domestic credit to private sector and domestic credit to private sector by bank highly correlate.

Table 3. Correlation matrix for control variables

	(Y)	(CV1)	(CV2)	(CV3)	(CV4)	(CV5)	(CV6)
(Y) Share of necessity-driven entrepreneurs in TEA	1.000						
(CV1) Long-term unemployment (% of total unemployment)	0.430	1.000					
(CV2) Unemployment, total (% of total labour force) (ILO estimate)	0.557	0.650	1.000				
(CV3) Unemployment, total (% of total labour force) (national estimate)	0.556	0.647	1.000	1.000			
(CV4) GDP per capita, PPP (constant 2011 international $)	-0.668	-0.323	-0.464	0.935	1.000		
(CV5) GDP per capita, PPP (current international $)	-0.672	-0.305	-0.485	0.371	0.314	1.000	
(CV6) Domestic credit to private sector (% of GDP)	-0.419	-0.245	-0.103	0.339	0.283	0.995	1.000
(CV7) Domestic credit to private sector by bank (% of GDP)	-0.488	-0.191	-0.148	0.081	0.043	0.185	0.157

In accordance with our hypotheses we identify normative, regulatory and cognitive components.

We use 11 variables to measure the regulatory component (Table 4); these variables include four GEM indicators (the presence, quality and extent to which public policies support entrepreneurship), three CPIA ratings (property rights and rule-based governance rating, and social protection rating), and four Doing Business indicators (complexity of start-up business).

The share of necessity-driven entrepreneurs highly negatively correlates with the availability of financial resources, the extent of public policies support of entrepreneurship, the presence and quality of assisting SME programs, profit tax, and total tax rate. The variables describing difficulties to start business (cost of business start-up, numbers of start-up procedures to register a business, time required to start a business) weakly negatively correlate with necessity-driven entrepreneurial activity, which means that start-up obstacles do not limit entrepreneurial activity of persons who do not have other choices on the labour market.

We use five variables to estimate the normative component (Table 5). However, only two variables from GEM are available for all years — the percentage of 18-64 population who agree with the statement that "in their country, most people consider starting a business as a desirable career choice" and the percentage of 18-64 population who agree with the statement that "in their country, successful entrepreneurs receive high status." Only one variable positively correlates with the dependent variable — Entrepreneurship as desirable career choice. The other four variables weakly negatively correlate with the share of necessity-driven entrepreneurs. The variables indicating corruption in the economy highly correlate.

Seven variables are proxy for cognitive component (Table 6). Three variables are available in GEM (perceived opportunities, fear of failure rate, perceived capabilities), and four variable are used as constant in time Hofstede Indexes (power distance, individualism, uncertainty avoidance, long-term orientation). Two of Hofstede indexes — Power Distance Index and Uncertainty Avoidance Index — highly positively influence the dependent variable while Hofstede Individualism Index influence the dependent variable highly negatively. Only one GEM indicator (Perceived Opportunities) significantly negatively correlates with the share of necessity-driven entrepreneurs.

Table 4. Correlation matrix for variables of the regulatory component

	(Y)	(RC1)	(RC2)	(RC3)	(RC4)	(RC5)	(RC6)
(Y) Share of necessity-driven entrepreneurs in TEA	1.000						
(RC1) The availability of financial resources (expert estimate)	-0.318	1.000					
(RC2) The extent to which public policies support entrepreneurship as a relevant economic issue (expert estimate)	-0.521	0.324	1.000				
(RC3) The extent to which public policies support entrepreneurship – taxes or regulations are either size-neutral or encourage new and SMEs (expert estimate)	-0.458	0.092	0.743	1.000			
(RC4) The presence and quality of assisting SME programs (expert estimate)	-0.781	0.252	0.630	0.656	1.000		
(RC5) Cost of business start-up procedures (%	-0.233	-0.064	0.197	-0.267	-0.150	1.000	

of GNI per capita)							
(RC6) Profit tax (% of commercial profits)	-0.550	0.590	0.248	-0.216	0.247	0.547	1.000
(RC7) Start-up procedures to register a business (number)	-0.007	0.336	-0.188	-0.351	0.218	0.056	0.470
(RC8) Time required to start a business (day)	-0.135	0.185	0.384	-0.068	0.003	0.670	0.507
(RC9) Total tax rate (% of commercial profit)	-0.384	0.806	0.228	-0.028	0.074	0.299	0.811
(RC10) CPIA property rights and rule-based governance (expert estimate)	0.147	0.188	-0.003	0.089	0.155	-0.446	-0.008
(RC11) CPIA social protection rating (expert estimate)	-0.011	0.102	-0.201	-0.332	0.144	-0.336	0.313
	(RC7)	(RC8)	(RC9)	(RC10)			
(RC7) Start-up procedures to register a business (number)	1.000						
(RC8) Time required to start a business (day)	0.185	1.000					
(RC9) Total tax rate (% of commercial profit)	0.308	0.472	1.000				
(RC10) CPIA property rights and rule-based governance (expert estimate)	0.331	-0.605	-0.050	1.000			
(RC11) CPIA social protection rating (expert estimate)	0.367	-0.264	0.040	0.529	1.000		

Table 5. Correlation matrix for variables of the normative component

	(Y)	(NC1)	(NC2)	(NC3)	(NC4)
(Y) Share of necessity-driven entrepreneurs in TEA	1.000				
(NC1) Entrepreneurship as desirable career choice (% of 18-64 population who agree with statement that in their country, most people consider starting a business as s desirable career choice)	0.204	1.000			
(NC2) High status successful entrepreneurship (% of 18-64 population who agree with statement that in their country, successful entrepreneurs receive high status)	-0.138	0.134	1.000		
(NC3) Bribery incidence (% of firms experiencing at least one bribe payment request)	-0.098	0.031	0.305	1.000	
(NC4) Informal payments to public officials (% of firms)	-0.353	-0.085	0.589	0.879	1.000
(NC5) CPIA transparency, accountability, and corruption in the public sector rating (expert estimate)	-0.042	-0.076	-0.296	-0.361	-0.370

It should be noted that, apart from the obvious correlations between variables inside each component, there are no high correlations. It means that there is no problem of multicollinearity in spite of using a large number of data sources.

Table 6. Correlation matrix for variables of the cognitive component

	(Y)	(CC1)	(CC2)	(CC3)	(CC4)	(CC5)	(CC6)
(Y) Share of necessity-driven entrepreneurs in TEA	1.000						
(CC1) Perceived capabilities (% of 18-64 population in TEA who believe they have the required skills and knowledge to start a business)	0.142	1.000					
(CC2) Perceived opportunities (% of 18-64 population in TEA who see good opportunities to start a business)	-0.333	0.631	1.000				
(CC3) Fear of failure (% of 18-64 population in TEA who indicate that fear of failure would prevent them from setting a business))	-0.046	-0.611	-0.463	1.000			
(CC4) Power distance index (Hofstede index)	0.454	0.119	-0.224	0.045	1.000		
(CC5) Individualism (Hofstede index)	-0.466	-0.344	-0.154	0.163	-0.518	1.000	
(CC6) Uncertainty avoidance index (Hofstede index)	0.452	-0.017	-0.414	0.178	0.595	-0.465	1.000
(CC7) Long-term orientation (Hofstede index)	0.067	-0.741	-0.690	0.469	0.101	0.182	0.239

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Appendix 1. Description of Data Sources Used

Global Entrepreneurship Monitor (http://www.gemconsortium.org/)

The Global Entrepreneurship Monitor (GEM) is the world's foremost study of entrepreneurship. The GEM databases contain information from more than 100 countries for the period between 1999 and 2015.

In each economy, GEM looks at two elements: (1) The entrepreneurial behavior and attitudes of individuals; (2) The national context and its impacts on entrepreneurship.

GEM provides three databases. The cross-country database contains aggregated data which describes country-level entrepreneurial activity. For each economy GEM provides data on expert estimates containing the country's business environment. The annual personal data contains answers to survey questions for every country which took part in the survey.

World Development Indicators (http://data.worldbank.org/data-catalog/world-development-indicators)

World Development Indicators (WDI) is the primary World Bank database for the development of data from officially recognized international sources. This database presents the most relevant and accurate global development data available, and includes national, regional and global estimates. The WDI contains time series annual data across 214 economies for the period from 1960 to 2015.

Hofstede's Global Leadership Dimensions (http://www.geerthofstede.nl/dimension-data-matrix**)**

Hofstede Indicators are used at free data source as aggregated indicators from 1 to 7 as well as disaggregated scale from 1 to 100. Hofstede Indicators are the base culture data for six dimension of culture shown below.

Power Distance Index (PDI) is an index which measures the less powerful members of organizations and institutions and how they accept and expect that power is distributed unequally.

Individualism (IDV) as it is juxtaposed to its opposite, collectivism, that is the measure to which individuals are comfortably integrated into groups.

Masculinity (MAS) versus its opposite, femininity refers to the distribution of roles between the genders which is another fundamental issue for any society to which a range of solutions are found.

Uncertainty Avoidance Index (UAI) deals with a society's tolerance for uncertainty and ambiguity; it ultimately refers to man's search for Truth.

Long-Term Orientation (LTO) values associated with Long Term Orientation are thrift and perseverance; values associated with Short Term Orientation are respect for tradition, fulfilling social obligations, and protecting one's 'face'.

Indulgence (IVR) versus restraint refers to the extent to which members of a society try to control their desires and impulses. Whereas indulgent societies have a tendency to allow relatively free gratification of basic and natural human desires related to enjoying life and having fun, restrained societies have a conviction that such gratification needs to be curbed and regulated by strict norms.

Doing Business (http://www.doingbusiness.org)

The Doing Business project provides objective measures of business regulations and their enforcement across 189 economies for the period from 2002 to 2015. Doing Business captures several important dimensions of the regulatory environment as it applies to local firms. It provides quantitative indicators on regulation for starting a business, dealing with construction

permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts and resolving insolvency.

The choice of the 11 sets of Doing Business indicators has been guided by economic research and firm-level data, particularly data from the World Bank Enterprise Surveys. There are starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts, resolving insolvency, labor market regulation.

Appendix 2. Data Description

Name	Description	Data Source*	Comments**
TEA	Total early-stage Entrepreneurial Activity (TEA): Percentage of 18-64 population who are either a nascent entrepreneur or owner-manager of a new business	GEM Key Indicators	Auxiliary variable
TEA_nec	Necessity-Driven Entrepreneurial Activity: Relative Prevalence Percentage of those involved in TEA who are involved in entrepreneurship because they had no other option for work	GEM Key Indicators	Auxiliary variable
Y = TEA_nec/TEA	Share of necessity-driven entrepreneurs in TEA		Dependent constructed variable
Y1 = TEA_nec	Percentage of necessity-driven entrepreneurs in country	GEM Key Indicators	Dependent variable
Y2 = TEA_MT4	Share of opportunity-driven entrepreneurs in TEA	GEM Key Indicators	Dependent variable
Financing	The availability of financial resources—equity and debt—for SMEs(including grants and subsidies)	NES Key variables	RC-1
GoverSupport	The extent to which public policies support	NES Key variables	RC-2
TaxesBureaucr	The extent to which public policies support	NES Key variables	RC-3
GoverProgr	The presence and quality of programs directly assisting SMEs at all levels of government (national, regional, municipal)	NES Key variables	RC-4
Suskilyy	Perceived Capabilities - Percentage of 18-64 population (individuals involved in any stage of entrepreneurial activity excluded) who believe they have the required skills and knowledge to start a business	GEM Key Indicators	CC-3
Opportyy	Perceived Opportunities - Percentage of 18-64 population (individuals involved in any stage of entrepreneurial activity excluded) who see good opportunities to start a firm in	GEM Key Indicators	CC-1

	the area where they live		
Frfailop	Fear of Failure Rate - Percentage of 18-64 population (individuals involved in any stage of entrepreneurial activity excluded) who indicate that fear of failure would prevent them from setting up a business	GEM Key Indicators	CC-2
Nbgoodyy	Entrepreneurship as Desirable Career Choice - Percentage of 18-64 population who agree with the statement that in their country, most people consider starting a business as a desirable career choice	GEM Key Indicators	NC-1
Nbstatyy	High Status Successful Entrepreneurship - Percentage of 18-64 population who agree with the statement that in their country, successful entrepreneurs receive high status	GEM Key Indicators	NC-2
Pdi	Power Distance Index - that is an index which measures the less powerful members of organizations and institutions and how they accept and expect that power is distributed unequally.	Hofstede's Global Leadership Dimensions	CC-6
Idv	Individualism - as it is juxtaposed to its opposite, collectivism, that is the measure to which individuals are comfortably integrated into groups.	Hofstede's Global Leadership Dimensions	CC-5
Uai	Uncertainty Avoidance Index - deals with a society's tolerance for uncertainty and ambiguity; it ultimately refers to man's search for Truth.	Hofstede's Global Leadership Dimensions	CC-4
Ltowvs	Long-Term Orientation - values associated with Long Term Orientation are thrift and perseverance	Hofstede's Global Leadership Dimensions	CC-7
NY.GDP.PCAP.PP.KD	GDP per capita, PPP (constant 2011 international $)	WDI	CV
NY.GDP.PCAP.PP.CD	GDP per capita, PPP (current international $)	WDI	CV
FS.AST.PRVT.GD.ZS	Domestic credit to private sector (% of GDP)	WDI	CV
FD.AST.PRVT.GD.ZS	Domestic credit to private sector by bank (% of GDP)	WDI	CV
IC.FRM.BRIB.ZS	Bribery incidence (% of firms experiencing at least one bribe payment request)	WDI	NC-3
IC.REG.COST.PC.ZS	Cost of business start-up procedures (% of GNI per capita))	WDI	RC-2

IC.FRM.CORR.ZS	Informal payments to public officials (% of firms)	WDI	NC-3
IC.TAX.PRFT.CP.ZS	Profit tax (% of commercial profits)	WDI	RC-7
IC.REG.PROC	Start-up procedures to register a business (number)	WDI	RC-1
IC.REG.DURS	Time required to start a business (day)	WDI	RC-1
IC.TAX.TOTL.CP.ZS	Total tax rate (% of commercial profit)	WDI	RC-7
IQ.CPA.FINS.XQ	CPIA financial sector rating (1=low to 6=high)	WDI	CV
IQ.CPA.PROP.XQ	CPIA property rights and rule-based governance rating (1=low to 6=high)	WDI	RC-8
IQ.CPA.PROT.XQ	CPIA social protection rating (1=low to 6=high)	WDI	RC-4
IQ.CPA.TRAN.XQ	CPIA transparency, accountability, and corruption in the public sector rating (1=low to 6=high)	WDI	NC-3
SL.UEM.LTRM.ZS	Long-term unemployment (% of total unemployment)	WDI	CV
SL.UEM.TOTL.ZS	Unemployment, total (% of total labour force) (modeled ILO estimate)	WDI	CV
SL.UEM.TOTL.NE.ZS	Unemployment, total (% of total labour force) (national estimate)	WDI	CV
CountryCode	Country Numeric Code		ID
COUNTRY_NAME	Full country name		ID
Ctryalp	Country Internet Alphanumeric (2-letter ISO)		ID
Year	Observation year		ID
Country3letter	Country code (3-letter ISO)		ID
CAT_GCR5	Country group – 5 categories	GCR report	
CAT_GCR3	Country group – 3 categories	GCR report	

Note. * We use 5 data sources for creating the database needed. All data are free. NES Key variables and GEM Key Indicators are available at http://www.gemconsortium.org/data; WDI are available at http://data.worldbank.org/data-catalog/world-development-indicators; Hofstede's Global Leadership Dimensions are available at http://www.geerthofstede.nl/dimension-data-matrix; GCR report is the Global Competitiveness Report (available at http://www3.weforum.org/); Doing Business database is available at http://www.doingbusiness.org .

** We use the following abbreviations: RC – Regulatory component; NC – Normative component; CC – Cognitive component, ID – identification number, CV – control variable.

Appendix 3. Descriptive Statistics of Variables

Table A3_1. Descriptive statistics of variables, 2009

Variable	# of obs.	Mean	St. dev.	Var	Min	p25	p50	p75	Max
Control variables									
GDP per capita, PPP(current international $)	99	21392.6	18900.5	3.57e+8	690.1	7883.5	24879.2	34069.9	119869.2
Domestic credit to private sector (% of GDP)	95	75.58	56.99	3247.60	6.83	29.39	51.74	107.16	224.05
Domestic credit to private sector by banks (% of GDP)	95	71.20	54.10	2926.48	6.83	29.28	51.73	103.32	224.05
Long-term unemployment (% of total unemployment)	52	28.99	19.16	366.94	0.50	16.45	25.25	34.95	83.50
Unemployment, total (% of total labour force)	98	9.09	5.67	32.12	0.30	5.20	7.80	11.40	32.20
Regulatory component									
The extent to which public policies support (expert estimate from 1 to 5)	43	2.51	0.53	0.28	1.65	2.09	2.47	2.85	4.32
The presence and quality of programs directly assisting SMEs at all levels of government (national, regional, municipal) (expert estimate from 1 to 5)	43	2.61	0.48	0.23	1.66	2.28	2.71	2.99	3.48
Start-up procedures to register a business (number)	99	7.90	3.49	12.17	1.00	6.00	8.00	10.00	18.00
Time required to start a business (days)	99	31.80	70.79	5010.69	2.50	9.00	18.00	36.00	690.00
Total tax rate (% of commercial profits)	99	40.32	16.47	271.39	8.40	30.00	38.40	48.40	107.30
CPIA property rights and rule-based governance rating (1=low to 6=high)	20	3.05	0.48	0.23	2.00	2.50	3.00	3.50	3.50
CPIA social protection rating (1=low to 6=high)	20	3.35	0.46	0.21	2.00	3.00	3.50	3.50	4.50
Cost of business start-up procedures (% of GNI per capita)	99	23.26	39.66	1573.00	0.00	2.50	7.70	24.80	267.50

Normative component									
Entrepreneurship as desirable career choice (% of population)	54	68.47	15.08	227.49	28.11	58.59	67.00	80.64	95.29
High status successful entrepreneurship (% of population)	54	71.76	11.37	129.29	48.98	65.56	72.38	78.01	97.46
Cognitive component									
Perceived Capabilities (% of 18-64 population)	54	52.65	16.30	265.80	13.78	40.26	52.93	64.81	84.78
Perceived Opportunities (% of 18-64 population)	54	36.27	16.27	259.39	2.85	24.12	36.58	48.42	73.78
Fear of Failure Rate (% of 18-64 population)	54	34.86	10.71	114.64	18.14	27.96	32.12	37.27	65.40
Power Distance (Hofstede Index)	36	56.41	21.15	447.22	11.00	40.00	58.50	68.50	95.00
Individualism (Hofstede Index)	36	48.75	24.47	598.65	11.00	28.50	47.50	70.00	91.00
Uncertainty Avoidance (Hofstede Index)	36	71.11	21.22	450.27	13.00	59.50	78.00	86.00	95.00
Long-term Orientation (Hofstede Index)	36	45.08	22.80	519.91	3.53	25.69	43.83	60.45	100.00

Table A3_2. Descriptive statistics of variables, 2010

Variable	# of obs.	Mean	St. dev.	Var	Min	p25	p50	p75	Max
Control variables									
GDP per capita, PPP(current international $)	99	22185.6	19702.0	3.88e+8	722.4	8201.2	16160.7	33760.0	126613.8
Domestic credit to private sector (% of GDP)	94	74.66	56.75	3220.60	6.29	26.39	52.77	110.36	211.33
Domestic credit to private sector by banks (% of GDP)	94	70.19	53.94	2909.50	6.29	25.93	51.40	99.29	211.28
Long-term unemployment (% of total unemployment)	52	28.99	19.16	366.94	0.50	16.45	25.25	34.95	83.50
Unemployment, total (% of total labour force)	98	9.25	5.83	34.00	0.40	5.00	7.60	12.00	32.00
Regulatory component									
The extent to which public policies support (expert estimate from	54	2.51	0.48	0.23	1.70	2.22	2.52	2.70	4.55

1 to 5)									
The presence and quality of programs directly assisting SMEs at all levels of government (national, regional, municipal) (expert estimate from 1 to 5)	54	2.51	0.47	0.23	1.66	2.12	2.47	2.88	3.71
Start-up procedures to register a business (number)	99	7.70	3.44	11.85	1.00	6.00	7.00	10.00	17.00
Time required to start a business (days)	99	30.45	70.72	5001.66	2.50	9.00	17.50	32.00	690.00
Total tax rate (% of commercial profits)	99	39.51	16.72	279.63	8.10	28.70	37.10	48.00	107.40
Cost of business start-up procedures (% of GNI per capita)	99	22.61	37.33	1393.61	0.00	2.30	7.90	25.80	226.60
Normative component									
Entrepreneurship as desirable career choice (% of population)	58	68.44	12.57	158.10	28.39	60.02	67.53	77.68	91.05
High status successful entrepreneurship (% of population)	58	72.47	9.88	97.59	49.91	66.23	71.69	77.60	92.75
Cognitive component									
Perceived Capabilities (% of 18-64 population)	59	55.01	16.37	268.05	13.718	42.43	53.19	68.80	86.69
Perceived Opportunities (% of 18-64 population)	59	43.51	18.15	329.57	5.92	29.63	40.91	53.24	81.36
Fear of Failure Rate (% of 18-64 population)	59	31.66	8.15	66.48	10.43	27.55	31.51	36.00	50.86
Power Distance (Hofstede Index)	36	56.41	21.15	447.22	11.00	40.00	58.50	68.50	95.00
Individualism (Hofstede Index)	36	48.75	24.47	598.65	11.00	28.50	47.50	70.00	91.00
Uncertainty Avoidance (Hofstede Index)	36	71.11	21.22	450.27	13.00	59.50	78.00	86.00	95.00
Long-term Orientation (Hofstede Index)	40	44.12	23.30	543.20	3.53	25.44	41.06	59.32	100.00

Table A3_3. Descriptive statistics of variables, 2011

Variable	# of obs.	Mean	St. dev.	Var	Min	p25	p50	p75	Max
Control variables									
GDP per capita, PPP(current international $)	99	23070.2	20788.9	4.32e+8	747.3	1606.9	16431.2	34315.8	133733.9
Domestic credit to private sector (% of GDP)	94	73.66	55.17	3044.26	5.34	27.39	53.58	106.73	203.65
Domestic credit to private sector by banks (% of GDP)	94	69.332	52.44	2749.64	5.34	27.32	53.01	100.38	203.61
Long-term unemployment (% of total unemployment)	51	38.35	20.42	416.97	0.40	24.40	34.60	49.60	89.70
Unemployment, total (% of total labour force)	98	9.14	6.00	35.98	0.60	4.50	7.40	12.70	31.40
Regulatory component									
The extent to which public policies support (expert estimate from 1 to 5)	49	2.49	0.46	0.21	1.72	2.19	2.46	2.82	3.49
The presence and quality of programs directly assisting SMEs at all levels of government (national, regional, municipal) (expert estimate from 1 to 5)	49	2.57	0.47	0.22	1.57	2.23	2.58	2.87	3.63
Start-up procedures to register a business (number)	100	7.33	3.37	11.33	1.00	5.00	6.00	9.00	16.50
Time required to start a business (days)	100	28.29	70.35	4949.79	2.25	7.75	15.00	28.50	690.00
Total tax rate (% of commercial profits)	100	39.21	16.57	274.58	7.95	28.80	37.20	47.10	107.40
Cost of business start-up procedures (% of GNI per capita)	100	19.81	31.76	1008.94	0.00	2.30	7.70	19.80	181.20
Normative component									
Entrepreneurship as desirable career choice (% of population)	46	66.50	13.85	191.77	26.03	54.55	65.55	77.01	89.41
High status successful entrepreneurship (% of population)	47	70.64	10.45	109.28	46.94	64.44	69.73	78.68	100.00
Cognitive component									
Perceived Capabilities (% of 18-64 population)	55	48.24	14.83	219.93	13.73	39.22	46.39	60.64	83.68

Perceived Opportunities (% of 18-64 population)	55	39.95	17.82	317.38	6.35	23.90	40.14	49.14	85.54
Fear of Failure Rate (% of 18-64 population)	55	35.25	9.31	86.59	14.00	30.47	34.93	40.53	72.01
Power Distance (Hofstede Index)	36	56.41	21.15	447.22	11.00	40.00	58.50	68.50	95.00
Individualism (Hofstede Index)	36	48.75	24.47	598.65	11.00	28.50	47.50	70.00	91.00
Uncertainty Avoidance (Hofstede Index)	36	71.11	21.22	450.27	13.00	59.50	78.00	86.00	95.00
Long-term Orientation (Hofstede Index)	39	45.08	22.80	519.91	3.53	25.69	43.84	60.45	100.00

Table A3_4. Descriptive statistics of variables, 2012

Variable	# of obs.	Mean	St. dev.	Var	Min	p25	p50	p75	Max
Control variables									
GDP per capita, PPP(current international $)	99	23778.91	21012.57	4.42e+8	753.17	9014.4	17959.9	35598.1	134298.8
Domestic credit to private sector (% of GDP)	93	73.47	54.40	2959.87	5.13	31.63	53.85	112.70	200.66
Domestic credit to private sector by banks (% of GDP)	93	68.91	51.25	2626.12	5.13	31.14	53.09	95.78	200.63
Long-term unemployment (% of total unemployment)	48	38.23	20.67	427.14	0.30	24.85	34.70	48.85	90.50
Unemployment, total (% of total labour force)	98	9.19	6.21	38.62	0.50	4.90	7.30	13.1	31.00
Regulatory component									
The extent to which public policies support (expert estimate from 1 to 5)	69	2.60	0.44	0.19	1.59	2.29	2.54	2.87	3.54
The presence and quality of programs directly assisting SMEs at all levels of government (national, regional, municipal) (expert estimate from 1 to 5)	67	2.61	0.45	0.20	1.72	2.21	2.60	2.95	3.61
Start-up procedures to register a business (number)	101	7.29	3.37	11.35	1.00	5.00	7.00	9.00	17.00
Time required to start a business (days)	101	28.19	70.08	4910.62	2.00	7.00	15.00	29.00	690.00

Total tax rate (% of commercial profits)	101	39.21	16.59	275.06	7.40	29.00	36.40	47.20	107.50
Cost of business start-up procedures (% of GNI per capita)	101	18.95	29.35	861.23	0.00	2.00	7.50	20.50	143.10
Normative component									
Entrepreneurship as desirable career choice (% of population)	58	65.80	13.75	188.96	29.67	56.00	66.88	76.12	89.22
High status successful entrepreneurship (% of population)	58	71.30	10.63	113.09	41.73	63.71	72.99	76.69	93.92
Cognitive component									
Perceived Capabilities (% of 18-64 population)	67	50.89	17.04	290.28	9.00	37.60	49.61	62.18	87.93
Perceived Opportunities (% of 18-64 population)	67	42.36	19.28	371.75	6.37	30.62	39.88	55.33	82.19
Fear of Failure Rate (% of 18-64 population)	67	34.27	9.86	97.19	12.37	30.36	35.37	40.83	61.29
Power Distance (Hofstede Index)	36	56.41	21.15	447.22	11.00	40.00	58.50	68.50	95.00
Individualism (Hofstede Index)	36	48.75	24.47	598.65	11.00	28.50	47.50	70.00	91.00
Uncertainty Avoidance (Hofstede Index)	36	71.11	21.22	450.27	13.00	59.50	78.00	86.00	95.00
Long-term Orientation (Hofstede Index)	40	44.12	23.31	543.20	3.53	25.44	41.06	59.32	100.00

Table A3_5. Descriptive statistics of variables, 2013

Variable	# of obs.	Mean	St. dev.	Var	Min	p25	p50	p75	Max
Control variables									
GDP per capita, PPP(current international $)	97	23986.1	21122.3	4.46e+8	780.00	9535.5	18782.9	34752.4	136727.3
Domestic credit to private sector (% of GDP)	92	73.86	54.31	2949.12	6.34	31.26	53.06	111.73	219.49
Domestic credit to private sector by banks (% of GDP)	92	68.97	50.51	2551.03	6.34	31.25	52.19	97.42	219.49
Unemployment, total (% of total labour force)	98	9.22	6.22	38.72	0.50	4.90	7.35	12.20	29.00
Regulatory component									

The extent to which public policies support (expert estimate from 1 to 5)	69	2.58	0.46	0.21	1.85	2.19	2.60	2.92	3.65
The presence and quality of programs directly assisting SMEs at all levels of government (national, regional, municipal) (expert estimate from 1 to 5)	69	2.61	0.46	0.21	1.54	2.28	2.53	2.99	3.67
Profit tax (% of commercial profits)	101	15.80	8.15	66.35	0.00	9.00	17.60	21.70	30.00
Start-up procedures to register a business (number)	101	6.98	3.33	11.05	1.00	5.00	6.00	9.00	17.00
Time required to start a business (days)	101	22.10	27.63	763.36	2.00	6.50	14.00	26.00	204.00
Total tax rate (% of commercial profits)	101	39.10	17.08	291.85	7.40	29.20	36.50	48.00	119.30
Cost of business start-up procedures (% of GNI per capita)	101	17.65	26.55	705.17	0.00	1.90	7.20	19.10	130.10
Normative component									
Entrepreneurship as desirable career choice (% of population)	65	64.15	14.62	213.70	17.93	54.31	65.55	74.02	90.85
High status successful entrepreneurship (% of population)	66	69.64	11.01	121.15	43.07	62.34	71.23	75.48	95.29
Cognitive component									
Perceived Capabilities (% of 18-64 population)	70	51.45	16.43	269.85	12.86	39.96	50.10	61.14	89.48
Perceived Opportunities (% of 18-64 population)	70	42.58	18.61	346.22	7.65	28.34	41.77	57.29	84.66
Fear of Failure Rate (% of 18-64 population)	70	34.60	9.76	95.18	15.03	28.24	35.20	40.09	63.66
Power Distance (Hofstede Index)	36	56.41	21.15	447.22	11.00	40.00	58.50	68.50	95.00
Individualism (Hofstede Index)	36	48.75	24.47	598.65	11.00	28.50	47.50	70.00	91.00
Uncertainty Avoidance (Hofstede Index)	36	71.11	21.22	450.27	13.00	59.50	78.00	86.00	95.00
Long-term Orientation (Hofstede Index)	40	44.12	23.31	543.20	3.53	25.44	41.06	59.32	100.00

Appendix 4. List of Countries

English short name (upper/lower case)	Alpha-2 code	Alpha-3 code	Numeric code	Link to ISO 3166-2 subdivision codes
United Arab Emirates	AE	ARE	784	ISO 3166-2:AE
Angola	AO	AGO	24	ISO 3166-2:AO
Argentina	AR	ARG	32	ISO 3166-2:AR
Austria	AT	AUT	40	ISO 3166-2:AT
Australia	AU	AUS	36	ISO 3166-2:AU
Bosnia and Herzegovina	BA	BIH	70	ISO 3166-2:BA
Barbados	BB	BRB	52	ISO 3166-2:BB
Bangladesh	BD	BGD	50	ISO 3166-2:BD
Belgium	BE	BEL	56	ISO 3166-2:BE
Burkina Faso	BF	BFA	854	ISO 3166-2:BF
Bulgaria	BG	BGR	100	ISO 3166-2:BG
Bolivia (Plurinational State of)	BO	BOL	68	ISO 3166-2:BO
Brazil	BR	BRA	76	ISO 3166-2:BR
Botswana	BW	BWA	72	ISO 3166-2:BW
Belize	BZ	BLZ	84	ISO 3166-2:BZ
Canada	CA	CAN	124	ISO 3166-2:CA
Switzerland	CH	CHE	756	ISO 3166-2:CH
Chile	CL	CHL	152	ISO 3166-2:CL
Cameroon	CM	CMR	120	ISO 3166-2:CM
China	CN	CHN	156	ISO 3166-2:CN
Colombia	CO	COL	170	ISO 3166-2:CO
Costa Rica	CR	CRI	188	ISO 3166-2:CR
Czech Republic	CZ	CZE	203	ISO 3166-2:CZ
Germany	DE	DEU	276	ISO 3166-2:DE
Denmark	DK	DNK	208	ISO 3166-2:DK
Dominican Republic	DO	DOM	214	ISO 3166-2:DO
Algeria	DZ	DZA	12	ISO 3166-2:DZ
Ecuador	EC	ECU	218	ISO 3166-2:EC

English short name (upper/lower case)	Alpha-2 code	Alpha-3 code	Numeric code	Link to ISO 3166-2 subdivision codes
Estonia	EE	EST	233	ISO 3166-2:EE
Egypt	EG	EGY	818	ISO 3166-2:EG
Spain	ES	ESP	724	ISO 3166-2:ES
Ethiopia	ET	ETH	231	ISO 3166-2:ET
Finland	FI	FIN	246	ISO 3166-2:FI
France	FR	FRA	250	ISO 3166-2:FR
United Kingdom of Great Britain and Northern Ireland	GB	GBR	826	ISO 3166-2:GB
Georgia	GE	GEO	268	ISO 3166-2:GE
Ghana	GH	GHA	288	ISO 3166-2:GH
Greece	GR	GRC	300	ISO 3166-2:GR
Guatemala	GT	GTM	320	ISO 3166-2:GT
Hong Kong	HK	HKG	344	ISO 3166-2:HK
Croatia	HR	HRV	191	ISO 3166-2:HR
Hungary	HU	HUN	348	ISO 3166-2:HU
Indonesia	ID	IDN	360	ISO 3166-2:ID
Ireland	IE	IRL	372	ISO 3166-2:IE
Israel	IL	ISR	376	ISO 3166-2:IL
India	IN	IND	356	ISO 3166-2:IN
Iran (Islamic Republic of)	IR	IRN	364	ISO 3166-2:IR
Iceland	IS	ISL	352	ISO 3166-2:IS
Italy	IT	ITA	380	ISO 3166-2:IT
Jamaica	JM	JAM	388	ISO 3166-2:JM
Jordan	JO	JOR	400	ISO 3166-2:JO
Japan	JP	JPN	392	ISO 3166-2:JP
Korea (Republic of)	KR	KOR	410	ISO 3166-2:KR
Kuwait	KW	KWT	414	ISO 3166-2:KW
Kazakhstan	KZ	KAZ	398	ISO 3166-2:KZ
Lebanon	LB	LBN	422	ISO 3166-2:LB
Lithuania	LT	LTU	440	ISO 3166-2:LT

English short name (upper/lower case)	Alpha-2 code	Alpha-3 code	Numeric code	Link to ISO 3166-2 subdivision codes
Luxembourg	LU	LUX	442	ISO 3166-2:LU
Latvia	LV	LVA	428	ISO 3166-2:LV
Libya	LY	LBY	434	ISO 3166-2:LY
Morocco	MA	MAR	504	ISO 3166-2:MA
Montenegro	ME	MNE	499	ISO 3166-2:ME
Macedonia	MK	MKD	807	ISO 3166-2:MK
Malawi	MW	MWI	454	ISO 3166-2:MW
Mexico	MX	MEX	484	ISO 3166-2:MX
Malaysia	MY	MYS	458	ISO 3166-2:MY
Namibia	NA	NAM	516	ISO 3166-2:NA
Nigeria	NG	NGA	566	ISO 3166-2:NG
Netherlands	NL	NLD	528	ISO 3166-2:NL
Norway	NO	NOR	578	ISO 3166-2:NO
Panama	PA	PAN	591	ISO 3166-2:PA
Peru	PE	PER	604	ISO 3166-2:PE
Philippines	PH	PHL	608	ISO 3166-2:PH
Pakistan	PK	PAK	586	ISO 3166-2:PK
Poland	PL	POL	616	ISO 3166-2:PL
Puerto Rico	PR	PRI	630	ISO 3166-2:PR
Palestine, State of	PS	PSE	275	ISO 3166-2:PS
Portugal	PT	PRT	620	ISO 3166-2:PT
Qatar	QA	QAT	634	ISO 3166-2:QA
Romania	RO	ROU	642	ISO 3166-2:RO
Serbia	RS	SRB	688	ISO 3166-2:RS
Russian Federation	RU	RUS	643	ISO 3166-2:RU
Rwanda	RW	RWA	646	ISO 3166-2:RW
Saudi Arabia	SA	SAU	682	ISO 3166-2:SA
Sweden	SE	SWE	752	ISO 3166-2:SE
Singapore	SG	SGP	702	ISO 3166-2:SG
Slovenia	SI	SVN	705	ISO 3166-2:SI

English short name (upper/lower case)	Alpha-2 code	Alpha-3 code	Numeric code	Link to ISO 3166-2 subdivision codes
Slovakia	SK	SVK	703	ISO 3166-2:SK
Suriname	SR	SUR	740	ISO 3166-2:SR
El Salvador	SV	SLV	222	ISO 3166-2:SV
Syrian Arab Republic	SY	SYR	760	ISO 3166-2:SY
Swaziland	SZ	SWZ	748	ISO 3166-2:SZ
Thailand	TH	THA	764	ISO 3166-2:TH
Tunisia	TN	TUN	788	ISO 3166-2:TN
Tonga	TO	TON	776	ISO 3166-2:TO
Turkey	TR	TUR	792	ISO 3166-2:TR
Trinidad and Tobago	TT	TTO	780	ISO 3166-2:TT
Taiwan, Province of China[a]	TW	TWN	158	ISO 3166-2:TW
Uganda	UG	UGA	800	ISO 3166-2:UG
United States of America	US	USA	840	ISO 3166-2:US
Uruguay	UY	URY	858	ISO 3166-2:UY
Venezuela (Bolivarian Republic of)	VE	VEN	862	ISO 3166-2:VE
Viet Nam	VN	VNM	704	ISO 3166-2:VN
Vanuatu	VU	VUT	548	ISO 3166-2:VU
Yemen	YE	YEM	887	ISO 3166-2:YE
South Africa	ZA	ZAF	710	ISO 3166-2:ZA
Zambia	ZM	ZMB	894	ISO 3166-2:ZM